...ted f... THE LANCET, ...

NATIONAL HEALT...
EDUC...

To the Edit...

SIRS,—The Scottish poe...
...a most excellent prayer, a...
...ody, in the lines :

"O wad some pow...
To see oursels as...

The fact that a large propo...
...unfit for military servic...
...own to, and carefully ...
...ends for a considerable tim...
...ss blind to it and have cert...
...deration it deserves.

It seems to me that Si...
...ings and speeches, and y...
...E LANCET of Jan. 31st...
...ice by drawing attenti...
...ering to learn that out o...
...two are found to be fit...
...s probable that, as y...
...ation is not that of th...
...certain section of it.

Reprinted from THE LANCET, *February 14, 1903.*

10.

ROYAL COLLEGE OF SURGEONS OF ENGLAND LIBRARY

NATIONAL HEALTH AND PHYSICAL EDUCATION.

To the Editors of THE LANCET.

SIRS,—The Scottish poet Burns has given expression to a most excellent prayer, and one suited to almost everybody, in the lines :

> "O wad some pow'r the giftie gie us
> To see oursels as ithers see us."

The fact that a large proportion of our urban population is unfit for military service has, I believe, been fully known to, and carefully considered by, our German friends for a considerable time while we have been more or less blind to it and have certainly not given to it the consideration it deserves.

It seems to me that Sir Frederick Maurice by his writings and speeches, and you by your leading article in THE LANCET of Jan. 31st, p. 315, have done public service by drawing attention to the fact. It is, indeed, staggering to learn that out of every five would-be soldiers only two are found to be fit for service after two years. It is probable that, as you say in your article, this condition is not that of the population at large but only of a certain section of it. The fact that the record is

constantly being broken for all sorts of feats of strength, agility, and endurance, such as lifting weights, high and long jumps, foot races, scores at cricket, bicycle rides, and swimming, indicates that the physique of the well-to-do classes is improving rather than deteriorating. But, on the other hand, the existence of a large section of the community, and that, too, the one which is most readily available for recruiting, having such a poor physique that only two out of every five are fit for military service is, as you most truly say in your leading article, an appalling fact. Nor is the condition a serious one only because it prevents us from getting the number of soldiers we need when an emergency arises, it is serious also from the civil standpoint, for if these men are unfit for military service what are they good for? Poor in physique as they all are, and poor in mental capacity and power of application as you suggest many of them are, What becomes of them? Many of them probably marry girls as weak as themselves and have children, some of whom go to swell the lists of infant mortality, some to join the criminal classes, while others grow up more weak and incompetent than their parents. It is probable that for the existence of this class the medical profession is to a considerable extent responsible. For by its increased knowledge and more energetic application of medicine and hygiene children are now reared who, under less favourable conditions, would have died in infancy. The harm which it has thus done the medical profession must now strive to undo by doing its best to secure that children shall not merely grow up, but shall be sufficiently strong and healthy to fit them for the battle of life. How this is to be done is a problem by no means easy to solve; in search for a solution, as Sir

Frederick Maurice truly says, one makes many mistakes and has often to change one's impressions, and therefore it is with the utmost diffidence and merely in a tentative way that I should like to mention some ideas which have occurred to me in regard to it. First of all, we want information as to (1) the causes of physical deficiency; (2) the best means of remedying the defects; and (3) the best means at present available in case that the best means possible cannot as yet be applied.

Information having been obtained on these points the next thing is its practical application. It is obvious that such tasks could only be undertaken by the Government and they ought properly to be undertaken by a board of health if such a board existed. In the absence of this much-needed board I suppose the best means of obtaining information would be the appointment of a small commission, regarding the composition of which the Royal Colleges of Physicians and Surgeons might fitly be consulted. As you truly say in your leading article: "No purpose can be served by attempting to answer a question of such a size as, What are the methods by which our national health can be improved?" But the scope of the inquiry might be limited to the three chief points insisted upon by Sir Frederick Maurice—namely, deficient teeth, flat-feet, and generally weak physique. The commission might ascertain to what extent decayed teeth are present at different ages among the children attending the Board schools throughout the kingdom. They might try to ascertain also how far the presence of decayed teeth coincides with the absence of phosphate of lime and silica in the food. If these substances be absent or deficient we can no more expect a child to have strong teeth than

we can expect a hen to lay eggs with well-formed shells when it is not supplied with lime in its food. The perfection of modern mills and the consequent separation of the outer part of the wheat and the mineral matter it contains from the starchy-matter which goes to form white bread is probably responsible to some extent for decayed teeth. Secondly, the occurrence of flat-foot at different ages should form part of the inquiry and along with this might go an examination of the development in the calves of the child's legs. Thirdly, they might seek to find out how far early marriages are due to youths and girls having nothing to do after their hours of labour are over excepting to walk about with one another, and if this be a cause how far its action might be prevented by providing such occupations and amusements as would not only fill up their leisure time but tend to develop them physically, mentally, and morally.

Until such information is obtained it is impossible to speak with certainty as to the best means of removing the physical deficiencies to which Sir Frederick Maurice has drawn attention. It seems to me probable, however, that though decay in teeth, like other nutritive phenomena, depends upon the condition of the body as a whole, especially of the nervous system, yet it may be greatly influenced by diet and cleanliness.

Of diet I have already spoken, but attention to cleanliness of the teeth is also of great importance. Caries is often started by acids formed by the decomposition of particles of food lying between the teeth. When the teeth are healthy and strong they may defy the attacks of such acids, but where they are weak they undergo erosion and begin to decay. During the day the teeth are kept more or less clean through being washed by the alkaline saliva

and rubbed by the tongue, but during the night particles of food may lie between them for many hours and decompose. The bad effects of this might be greatly lessened by children systematically cleaning their teeth, especially at night. The expense of tooth-brushes renders their employment out of the question by the poorer classes, but all that is required is a lucifer match which has already been used. One end of this is cut into a wedge shape and passed between the teeth, so as to press out any particles of food that may be lodging between them. It should also be drawn round the base of each tooth close to the gum so as to remove any adhering tartar. The expense of such treatment is *nil*, the trouble is very small, and the gain from it would be very considerable.

For flat-feet balancing exercises on the toes might be regularly given to school children, but they ought to form only a part of general physical training which should be as compulsory for every child as learning the "three R's." If, as I believe, early marriages are partly due to want of suitable occupation and amusement in leisure hours, this might partly be avoided as far as men are concerned by developing their interest in volunteering through regular training at school in the use of a rifle between the ages of seven and 14 years. Their interest might be kept up by rifle and pistol saloons in which they could learn to aim with precision both at stationary and moving objects. The success that has been obtained by Colonel Fox in the development of young recruits by physical exercises shows how extraordinary the benefit is which youths derive from such exercises, and if they were systematically employed in schools many of the recruits who are now rejected would probably be well over the mark of efficiency, while their training in the use of the rifle would

enable them to learn all the necessary drill much more quickly than at present and leave them with more spare time during their service. In regard to the employment of their spare time we might, I think, with advantage take a lesson from the Russian army, and upon this point Mr. Francis H. E. Palmer makes some remarks which are so apposite that, with your permission, I should like to quote them entire: "Military training has naturally produced the most striking results among the lower classes as it has served to develop the very faculties in which the peasantry are most deficient. The recruit drawn from the easy-going life of the village, where he seems incapable of doing anything except as a member of his artel, is suddenly transported into a new world in which many moral qualities that have hitherto lain dormant are called into play. Strict obedience is already a part of his very nature, but the necessity for order, exactitude, punctuality, and alertness is impressed upon him at every moment. A Russian peasant or workman upon the completion of his military service can nearly always command from 25 to 50 per cent. higher wages than those who have not had this advantage. It is not in moral training alone, however, that the lower classes have benefited by military service. Only a very small part of the multifarious requirements of the Russian army and navy could hitherto be supplied by private industry, and the Government has been compelled to convert itself into a colossal manufacturer and universal provider. Private industry has been fostered, it is true, whenever possible, but nevertheless the Government has been compelled in almost every branch to take the initiative from the weaving of cloth for the soldiers' uniforms to the making of common or scientific instruments.

In the army almost every trade is carried on and rarely does a recruit return home when his military service is over without having gained some technical knowledge that greatly increases the value of his labour." [1]

If the army were thus converted into a huge technical school and manufactory, in which all the uniforms, shoes, saddlery, &c., were made, the expense of maintaining the army would be so much lessened that we might hope for a marked diminution in taxation, whilst the men trained in it after their return to civil life would be able to support their wives and families instead of becoming a burden on the ratepayers.

I am, Sirs, yours faithfully,

LAUDER BRUNTON.

Feb. 10*th*, 1903.

[1] Russian Life in Town and Country. By Francis H. E. Palmer. London: George Newnes, Limited, 1901, p. 260.